VZDU # 26 SEPT/OCT 1990

VZ DOWN UNDER CLUB

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I offer my appologies for forgetting to roll the Red Carpet out last issue. I did add 2 extra pages, and then forgot to celebrate our fourth birthday. SORRY

I shall be away from home until about 10th October. If you want to be in touch with the club, please write to Ron.

In the last issue, I missed printing the last lines of Around The World. Here they are:--

```
410 SET(B-4,61):SET(B-4,60): SET(b-4,59) :SET(b-4,58): SET(b-4,57)
680 SET(33,40) :SET(32,41) :SET(31,42) :SET(32,42) :SET(33,42)
990 A=A+1:SET(a,4) :SET(A,5) :IFA=65THENGOTO1010
1420 A=56
1910 A=A+1:B=B-1:SET(a,51) :SET(B,51) :IFA=51THENGOTO1930
2460 SET(33,33) :SET(34,33) :SET(31,34) :SET(32,34) :SET(33,34)
```

Remember that our club meetings are the first Sunday afternoon of each month. We would welcome you at them.

At the last meeting it was decided that as a club project, we would build the MODEM project developed by Peter Hickman and his brother, and being featured in the Hunter Valley VZ Newsletter. I hope to give more information in the next edition.

Bob Kitch has donated to the club, a file of articles that have been published haveing a bearing on the Mighty V.Z. We extend our thanks to Bob, not only for that, but for all the help he has given, not only to us, but to all VZ Users Groups, both in Australia and New Zealand. He is now contributing a series on the SOUND command, which has been neglected over the years. Thankyou Bob.

Harry

RANDOM NUMBERS

At the last meeting, the matter of RANDOM NUMBERS came up for discussion. It appears that the general assumption is that they will repeat themselves over again. This need not be so. It is only a matter of programming. Try this routine, and you will see that it will print ALL the numbers called for, once and once only.

```
5 DIMA(100):CLS
10 X=RND(100)
15 IF A(X)=1 THEN 10 ELSE A(X)=1
20 PRINT X;:B=B+1:IF B=100THEN 25 ELSE 10
25 END
```

That will print ALL the numbers between 1 and 100.

It was further inferred that the generator always printed the same sequence. Well, that can be upset also. If you are using one of the Extended Basic programs, it will reseed the generator to give different sequences. If you do not use them, then alter line 10 like this:--

```
10 X=RND(100)+RND(5)-RND(5)
```

Add line 12:--

```
12 IF X <1 OR X> 100 THEN 10 ELSE 15
```

You can alter any of those RND nos within reason.

You will have noticed that towards the end the printing slows down. This is because it has only a few numbers to choose and many to choose from.

```
15 IF A(X)=1 THEN 10 ELSE A(X)=1
```

Line 15 is the line that stops repeats. The first number drawn (X) has not been drawn previously, so A(X) will be 0.(A(X)=0). That number is acceptable, so it continues on. The next command is A(X)=1. Say 6 was the first number. A(6) will =0. Then A(6)is made equal 1 (A(6)=1). If 6 is drawn again A(6)=1 and it will go back to line 10 and get another number.

You could add another line to print A(X). :--

```
11 PRINT A(X)
```

You will get a list like this 0 X 0 X 0 X 0 X 1 1 1 0 X. The X will printout. The 1s will go back to 10 and get another number, till it gets one that A(X)=0. So once a number has been processed once, it cannot be so again.

Databases Wordprocessors Spreadsheets and Viruses

Once again I'm held to ransom. Unless I write this article I'm thratened with another SCREAM SHEET. Whilst I'd welcome the SCREAM SHEET, i'll go easy.

What is a Wordprocessor, Database, Spread Sheet and Virius????

In these days, when, you are consided illiterate unless you can use a computer, this query would have to come from an "illerate" person.

A wordprocessor program, when loaded into a computer, allows it to act as a very sophisticated wordprocessor and typewriter. It allows text to be manipulated, stored edited displayed and otherwise dealt with.

A database is for storing of data. This can be names and addresses, appointments, events, used as a card index, storing recipies, statistics and files. Book or record or stamp collections. Household inventry and many other uses

Spreadsheets are used for many applications. Such as analyses sheets for finiancial or production reckoning or checks. Or for scheduling sports draws.

```
          fuel  stationary repairs  rent  electrity etc
Week-1
Week-2
Week-3

Q'ld )
     )--   Q'ld )
NSW  )
                )--   ????
Vic    )
       )--  Vic   )
S.Aus. )

Tasmania)
        )-- Tas )
W.Aust  )
                )-- ????
N.Ter. )
       )--  N.Ter )
N.Guin.)
```

That is two uses for Spreadsheets

Now Virus. The dictionary says---Malignity ; acrimony---means a moral poison. So when a computer gets a electronic particle that it should'nt have, the slang has refered to it as a VIRUS. It is generally caused by a person who is not friendly, introducing it to cause trouble. You can forget it as far as the VZ is concerned. It is

the large Networks that cops it. Introduced to one of the network, it can spread to all computers that work with one so infected. It is generally introduced in the software. When and if it is found, it is only a matter of destroying all the software so infected. In our case, watch for which program causes the computer to start playing up, and then don't use that software any more.

So there is no need to loose sleep over it. By the large networks, I mean the banks, insurance cos., Goverment departments and suchlike. Maybe 1000 computers involved. Which one has the defective software???

################################ ###############################

LETTERS to the EDITOR"

I have a couple of times been asked to have a column under this heading. I have always been willing to have one, but have had no letters to put in it. You are always welcome to join in the SREAM SHEET. Noone has a monopoly on that, even though we do have an OFFICIAL SCREAMER. Perhaps you could have a SCREAM about the lack of SCREAM sheets.

Well now I have a letter for the column as under.

```
10 CLS:FOR X=1TO9:  READA:PRINT CHR$(A);:NEXT
15 PRINT:PRINT:PRINT
20 FORX=1TO13 :READA: PRINT CHR$(A);: NEXT :PRINT
30 FOR X=1TO2000
110 CLS
120 INPUT"STRT";ST
130 INPUT"END";LS
140 FOR I = ST TO LS
150 IF I\32 = INT(i\32) THEN PRINT I ELSE 160
160 IF PEEK(I) >32 THEN PRINT CHR$(PEEK(I)); ELSE 170
170 FOR X = 1 TO 200:NEXT
180 NEXT i
190 All the best. R.H.
```

(TRY 15596 TO 15912 ed.)

RIGHT!! WHO'S NEXT??? (ed).

**** DATABASES ****

This is the second program. It is a DATABASE with any number of fields. For handling, all the fields of each entry are concatenated.

Concatenating means to add the various DATA together to make one string. This is done in lines 960 and 965. The data input is Q$. (line 250). The string will be P$(T). line 960 we add Q$ to P$(T), and add 2 spaces to seperate the fields. You can add more spaces if you wish. (They count in the 220 bytes allowed.) The next and subsequent fields P$(t) becomes P$(T) plus Q$ plus spaces.

The first portion is the same as part 1 printed last issue, so if you have printed that in, it is only a little deleting and insertion of 3 or 4 sections to have this one too.

```
10 REM *** VZDUDATA-2 ***:30-6-90:by
H.M.Huggins
15 CLS:PRINT:PRINT:PRINT:LIST20
20 LOAD"XB":ONLY"DE","DI"
THEN RUN  30
30 CLS:GOTO120:REM VZDUDATA-2
45 REM ******** SAVING ************
50 CLS:PRINT:STATUS: XDIR: PRINT@405,"T=
"T: PRINT@420,"SAVING"
55
INPUT"NAME";G$:INPUT"FROM/TO";C,P:IFC=0T
HENC=1:P=T
60 OPEN""+G$,1:PR#""+G$,P
65
FORI=CTOP:PR#""+G$,P$(I):PRINT@440,I:NEX
T:CLOSE""+G$:GOTO200
75 REM
80 REM ******* LOADING ***********
85 CLS:XDIR: PRINT @420,"LOADING":
INPUT"NAME";g$: IFG$=""THEN135
90
OPEN""+G$,0:INPUT"FROM/TO";C,P:IFC=0THEN
95ELSE100
95 IN#""+G$,P:C=1
100
FORI=CTOP:IN#""+G$,P$(I):PRINT@440,I:NEX
T:T=P
105 CLOSE""+G$:GOTO200
110 CLOSEG$:RETURN
111 '
115 REM ********* SET-UP **********
120 CLS:CLEAR19000:COLOR6,0
125 DIMP$(900):DRIVE1
130 T=0:F=0:C=0:Y=1:A=1:Z=1
135 G$="NO NAME"
190 REM***********MENU***********
200 POKE30777,1:CLS:GOSUB110:PRINT@75,"MENU"
205 PRINT:PRINT
210 PRINT"      T= ";T;"       DRIVE-";A
215 PRINT" V-IEW";TAB(15)"W-RITE"
220 PRINT" E-DIT";TAB(15)"X-MEMORY"
225 PRINT" L-OAD";TAB(15)"S-AVE"
230 PRINT"          O-VER-RIDE T"
235 PRINT" D-STATUS-DIR";TAB(15)"A-ALPH SORT"
240 PRINT" P-LPRINT";TAB(15)"T-SET DRIVE
250 POKE30777,35
255 Q$=INKEY$:Q$=INKEY$:IFQ$=""THEN255
260 IFQ$="A"THENGOSUB1100:'SORT
265 IFQ$="D"THEN355:'DIR
270 IFQ$="E"THEN1000'EDIT
280 IFQ$="L"THEN85:'LOAD DISK
285 IFQ$="X"THEN650:'MEM
290 IFQ$="O"THEN350'SET P
295 IFQ$="P"THEN600:'LPRINT
305 IFQ$="S"THEN50'SAVE DISK
310 IFQ$="T"THEN335'SET DRIVE
315 IFQ$="V"THEN700'VIEW
320 IFQ$="W"THEN900:'WRITE
322 IFQ$="M"THEN200 ELSE255: GOTO255:'menu

330 REM ****** UTILITIES *********
335 CLS:INPUT"DRIVE 1 OR
2";A:IFA=1THEN340ELSE345
340 DRIVE1:GOTO200
345 DRIVE2:GOTO200
350 CLS:INPUT"T=??";T:GOTO200
355 CLS:STATUS:XDIR
360 PRINT:PRINT"HIT <D> OR <M> OR <S> OR
<L>":GOTO255

600 CLS:REM******** LPRINT OUTPUT ********
605 'LPRINTCHR$(27);"M";:
610
INPUT"FROM/TO";A,B:INPUT"TAB(N)(0-20-40-62MAX
)";N
615 FORJ=ATOB
625 LPRINTTAB(N)P$(J)
630 NEXT
635 INPUT"AGAIN
Y/N";B$:IFB$="N"THEN200ELSE610

650 REM****** MEMORY ************
655 CLS:POKE30862,212:POKE30863,39
660 PRINTUSR(X);USR(X$)
665 INPUT"MENU-RETURN";X:GOTO200
```

```
700 CLS:REM************VIEW***********
710 PRINT@0,"SPACE=+1:<.>=-1:<:>=START
715 PRINT@32,"E=EDIT   ;M=MENU
720 INPUT"START VIEW LINE NUMBER";X
725 PRINT"PRESS SPACE OR FULLSTOP OR
COLON
735 POKE30777,1:PRINTX;TAB(5)P$(X)
740 K$=INKEY$:K$=INKEY$
750 IFK$=" "THENX=X+1:GOTO735
755 IFK$=":"THENCLS:GOTO700
765 IFK$="E"THENGOSUB
1010:CLS:PRINT"PRESS SPACE"
770 IFK$="."THENX=X-1:IFX<1THENGOSUB
785ELSE735:GOTO735
775 IFK$="M"THEN200
780 GOTO740
785 X=1:RETURN
```

Up to here the 2 programs are almost the same. We have considerable differences from here on; except the sorting routine which is exactly the same.

In the write section we determine how many fields we have. They can be altered anytime in the program. Go back to MENU and press <<W>>. You will be asked how many fields. Just help yourself. You may have as many as you need, BUT all fields added together MUST have LESS than 215 characters. If you exceed that the program will break with a message of <<STRING TOO LONG>> and that string will not be included. Just type << GOTO 200 >> and continue. The same restriction applies to data put in in the EDIT mode. Remember 215. That is about 7 lines. That 215 may be made up of 4 strings of 53 chars. or 54 strings of 4 chars.

Depending on what you intend to use, you have to base your DIM. If you intend to use the whole 215 in each entry, then you will dim P$ as 88. That gives you 616 lines of printout. Using less than 215 will give you more entries, but still 616 lines. In this program you don't have to state the length of your longest entry. Just put it in. The program will adjust to it.

```
900 CLS:REM*****WRITE*******
910 T=T+1:V=1
920 PRINT"HIT RETURN FOR MENU"
921 PRINT:PRINT
925 PRINT"YOU MAY HAVE AS MANY FIELDS AS YOU
WISH"
926 PRINT"HOWEVER  ALL  FIELDS TOGETHER MUST"
927 PRINT"HAVE LESS THAN220CHARACTERS:ABOUT 7
LINES"
930 PRINT:PRINT:INPUT"NO OF FIELDS ;Y
940 FORZ=ZTO1200:Z$=STR$(Z)
950 PRINTV;Z:INPUTQ$:IFQ$=""THEN990
955 IFV=1THEN960ELSE965
960 P$(T)=Q$+"  ":GOTO970
965 P$(T)=P$(T)+Q$+"  "
970 V=V+1:IFV>YTHEN980ELSE985
980 T=T+1:V=1:PRINT:PRINT
985 NEXT
990 T=T-1:GOTO200
```

The EDIT also is vastly different, because you could find an entry 7 lines long and the VZ will only handle 2 lines. So to get around that, if you want to alter an entry, you delete it and write it again. The entry is not cleared off the screen, but left there for you to copy as much as you don't want to alter. You nominate the entry number you want. It is printed for you. You are given the option to delete it or not. If not it goes on to a menu. Press space for the next or Fullstop for the previous, same as in the VIEW. If you delete it you are asked how many fields. Then an input for each field is presented. Press <<M>> for menu.

```
1000 REM ************ EDIT ***********
1015 INPUT"NO. TO EDIT";X
1010 CLS:PRINT:PRINT:PRINT"FILE
NO.;X:PRINT:PRINT:PRINTP$(X)
1012
PRINT:INPUT"DELETE.Y/N";K$:IFK$="Y"THEN1015EL
SE1070
1015 P$(X)=""
1020 INPUT"HOW MANY FIELDS";Y
1030 FORZ=1TOY:PRINT"ENTER FIELD";Z:
1040 INPUTQ$
1050 P$(X)=P$(X)+Q$+"  ":NEXT
1070 K$=INKEY$:K$=INKEY$
1075 IFK$=" "THENX=X+1:GOTO1010
1080
IFK$="."THENX=X-1:IFX<1GOSUB1090ELSE1010:GOTO
1010
1082 IF"K$=","THEN RETURN
1085 IFK$="M"THEN200ELSE1070
1090 X=1:RETURN
```

The SORTING is the same as part one. It was

$$$$ KENO $$$$

```
4 'KENO 1990 BY IAN NIEDZWIECKI  DENILIQUIN
5 CLEAR1000:DIMA(80):M=448:X=0:CLS:CT=0:L=5:GOTO7000
6 B=0:C=0:D=0:E=0:F=0:G=0:H=0:I=0:J=0:K=0:W=0:X=0
10 FORZ=43TO331STEP32:PRINT@Z,"  ":NEXT
12 FORZ=44TO332STEP32:PRINT@Z,"  ":NEXT
14 FORZ=48TO336STEP32:PRINT@Z,"  ":NEXT
16 FORZ=49TO337STEP32:PRINT@Z,"  ":NEXT
18 PRINT@480,"                              ";
19 PRINT@448,"                              ";
20 PRINT@391,"    ":'GOTO6000
100 PRINT@422,"▣ YOUR SELECTIONS ▣"
105 X=X+1:IFX>10THEN135
110 READA$
115 PRINT@384,"                              "
120 PRINT@384,X;A$;"  NUMBER";:INPUTN(X)
125 IFN(X)<1ORN(X)>80THEN115ELSE130
130 P(X)=N(X):GOSUB140:GOTO105
135 PRINT@384,"                              ":GOTO225
140 FORZ=0TOX-1:IFP(Z)=N(X)THEN115ELSENEXT
145 GOSUB160:M=M+3:RETURN
150 DATA"ST","ND","RD","TH","TH","TH","TH","TH","TH"," TH"
160 PRINT@M,N(X):RETURN
225 REM
235 Y=331
240 A=RND(80)
245 IFA(A)=1,240ELSEA(A)=1
260 GOSUB2000
280 PRINT@Y,A:SOUND15,1
285 GOSUB500
300 Y=Y-32
320 IFY=11,Y=336
340 IFY=16,FORA=1TO1000:NEXT:GOTO600
360 GOTO240
500 IFN(1)=A,B=10:SOUND31,1;31,1:PRINT@481,"▓▓";
510 IFN(2)=A,C=10:SOUND31,1;31,1:PRINT@484,"▓▓";
520 IFN(3)=A,D=10:SOUND31,1;31,1:PRINT@487,"▓▓";
530 IFN(4)=A,E=10:SOUND31,1;31,1:PRINT@490,"▓▓";
540 IFN(5)=A,F=10:SOUND31,1;31,1:PRINT@493,"▓▓";
550 IFN(6)=A,G=10:SOUND31,1;31,1:PRINT@496,"▓▓";
560 IFN(7)=A,H=10:SOUND31,1;31,1:PRINT@499,"▓▓";
570 IFN(8)=A,I=10:SOUND31,1;31,1:PRINT@502,"▓▓";
580 IFN(9)=A,J=10:SOUND31,1;31,1:PRINT@505,"▓▓";
590 IFN(10)=A,K=10:SOUND31,1;31,1:PRINT@508,"▓▓";
595 RETURN
600 IFB+C+D+E+F+G+H+I+J+K<30,700
605 IFB+C+D+E+F+G+H+I+J+K=30,710
610 IFB+C+D+E+F+G+H+I+J+K=40,715
615 IFB+C+D+E+F+G+H+I+J+K=50,720
620 IFB+C+D+E+F+G+H+I+J+K=60,725
625 IFB+C+D+E+F+G+H+I+J+K=70,730
630 IFB+C+D+E+F+G+H+I+J+K=80,735
635 IFB+C+D+E+F+G+H+I+J+K=90,740
640 IFB+C+D+E+F+G+H+I+J+K=100,745
```

```
700 W=0:GOTO800
710 W=20:GOTO803
715 W=50:GOTO803
720 W=100:GOTO803
725 W=150:GOTO803
730 W=300:GOTO803
735 W=500:GOTO803
740 W=800:GOTO803
745 W=1500:GOTO803
800 GOSUB880:PRINT@416,"████████";:PRINT@425,L:CT=CT-5:GOTO805
803 CT=CT+W-L:GOSUB880:PRINT@416,"███████";:PRINT@425,W-L
805 SOUND31,1;15,2;31,1;15,2;25,2;12,2;31,3;0,9;0,9
810 PRINT@416,"                                ":PRINT@417,"██████"; CT
840 PRINT@437,"█████";:PRINT@443,"Y/N?";
850 A$=INKEY$:A$=INKEY$
855 IFA$="",850:IFA$<>" ",850
857 IFA$="N",1000
860 IFA$="Y",GOTO900
862 GOTO850
865 PRINT@24,"            ";:PRINT@59,"        ";:RUN6
870 GOTO850
880 PRINT@416,"                                                    ":RETURN
900 FORA=1TO80:A(A)=0:NEXT
910 PRINT@384,"                                                   "
911 PRINT@416,"                                                   "
915 PRINT@384,"SAME NUMBERS?"
916 FORX=1TO200:NEXT
917 K$=INKEY$:K$=INKEY$
920 IFK$="N"THEN6
925 IFK$="Y"THEN8000ELSE917
1000 CLS:POKE30744,1:PRINT@167,"THANKS FOR PLAYING"
1010 PRINT@225,"YOU ARE LEAVING WITH "; CT;"COINS"
1020 SOUND1,4;31,4;1,4;31,4;1,7;31,8:POKE30744,0:CLS:END
2000 REM
2012 PRINT@99,"█":PRINT@99," ":PRINT@121,"█":PRINT@121," "
2014 PRINT@68,"█":PRINT@68," ":PRINT@88,"█":PRINT@88," "
2016 PRINT@37,"█":PRINT@37," ":PRINT@55,"█":PRINT@55," "
2018 PRINT@6,"█":PRINT@6," ":PRINT@22,"█":PRINT@22," "
2020 PRINT@7,"█":PRINT@7," ":PRINT@21,"█":PRINT@21," "
2022 PRINT@8,"█":PRINT@8," ":PRINT@20,"█":PRINT@20," "
2024 PRINT@9,"█":PRINT@9," ":PRINT@19,"█":PRINT@19," "
2026 PRINT@10,"█":PRINT@10," ":PRINT@18,"█":PRINT@18," "
2028 PRINT@11,"█":PRINT@11," ":PRINT@17,"█":PRINT@17," "
2030 RETURN
6000 COLOR4,0: FORS=28713TO29033STEP32:POKES,128:NEXT
6030 FORS=29034TO29044:POKES,140:NEXT
6035 FORS=28725TO29045STEP32:POKES,128:NEXT
6040 FORS=28719TO29039STEP32:POKES,128:NEXT
6050 PRINT@129," ▄▄▄▄▄ ":PRINT@152," ▄▄▄▄▄ ":REM SHIFT +  AYYYYS
6060 PRINT@161," █   █ ":PRINT@184," █   █ ":REM SHIFT +  I    U
6070 PRINT@193," █KENO█ ":PRINT@216," █KENO█ ":REM SHIFT +  IKENOU
6080 PRINT@225," █   █ ":PRINT@248," █   █ ":REM SHIFT +  I    U
6090 PRINT@257," ▀▀▀▀▀ ":PRINT@280," ▀▀▀▀▀ ":REM  SHIFT + DTTTTF
6095 GOTO100
7000 FORZ=28773TO28793:POKEZ,128:NEXT
7010 FORZ=28805TO28825:POKEZ,128:NEXT
7020 FORZ=28837TO28857:POKEZ,128:NEXT
7030 FORZ=28869TO28889:POKEZ,128:NEXT
```

```
7040 FORZ=28901TO28921:POKEZ,128:NEXT
7050 FORZ=28933TO28953:POKEZ,128:NEXT
7060 FORZ=28965TO28985:POKEZ,128:NEXT
7070 FORZ=28997TO29017:POKEZ,128:NEXT
7080 FORZ=29029TO29049:POKEZ,128:NEXT
7090 POKE28846,191:POKE28974,191:FORZ=28848TO28976STEP32
7100 POKEZ,191:NEXT:POKE28845,191:POKE28909,191:POKE28973,191
7110 POKE28881,185:POKE28844,191:POKE28908,191:POKE28972,191
7120 POKE28914,185:FORZ=28843TO28971STEP32:POKEZ,191:NEXT
7130 FORZ=28851TO28979STEP32:POKEZ,191:NEXT:POKE28841,182
7140 POKE28969,185:FORZ=28853TO28981STEP32:POKEZ,191:NEXT
7150 POKE28872,182:POKE28936,185:POKE28854,191:POKE28982,191
7160 POKE28903,191:POKE28855,191:POKE28983,191
7170 FORZ=28838TO28966STEP32:POKEZ,191:NEXT
7180 FORZ=28856TO28984STEP32:POKEZ,191:NEXT
7190 SOUND31,2;15,2;31,1;15,1;27,2;12,2;31,1;10,3;31,2;15,2;10,2
7200 PRINT@487,"INSTRUCTIONS Y/N";
7205 A$=INKEY$:A$=INKEY$
7206 IFA$="",7200:IFA$<>" ",7200
7210 IFA$="N",CLS:GOTO6000
7220 IFA$="Y",7230
7230 CLS:PRINT@43,"[illegible]"
7240 PRINT:PRINT"THE RULES ARE FAIRLY STRAIGHT-"
7245 PRINT"FORWARD. YOU ARE REQUIRED TO "
7250 PRINT"PICK 10 NUMBERS FROM A POSSIBLE"
7255 PRINT" 80. YOUR WINNINGS WILL DEPEND"
7260 PRINT"ON HOW MANY NUMBERS YOU CAN "
7265 PRINT"  MATCHUP WITH THE COMPUTER"
7267 PRINT" EACH TURN COSTS YOU FIVE COINS"
7270 PRINT:PRINT" UNDER [illegible]=0: [illegible] NOS=20:  [illegible] NOS=50"
7280 PRINT" [illegible] NOS=100: [illegible] NOS=150: [illegible] NOS=300";
7290 PRINT" [illegible] NOS=500: [illegible] NOS=800: [illegible] = 1500";
7300 PRINT:PRINT"                [illegible]"
7310 PRINT@484,"PRESS <C> TO CONTINUE";
7320 A$=INKEY$:A$=INKEY$
7330 IFA$="",7310:IFA$<>" ",7310
7340 IFA$="C",CLS:GOTO6000
8000 B=0:C=0:D=0:E=0:F=0:G=0:H=0:I=0:J=0:K=0:W=0:X=0
8001 M=448:RESTORE
8005 FORZ=43TO331STEP32:PRINT@Z,"  ":NEXT
8010 FORZ=44TO332STEP32:PRINT@Z,"  ":NEXT
8020 FORZ=48TO336STEP32:PRINT@Z,"  ":NEXT
8030 FORZ=49TO337STEP32:PRINT@Z,"  ":NEXT
8040 PRINT@480,"                               ";
8050 FORX=1TO15:PRINT@384,CHR$(127):NEXT
8060 PRINT@416,"         ":PRINT@422,"* YOUR SELECTIONS *"
8070 GOTO235
```

LET'S INVESTIGATE SOUND ON THE VZ.

PART 1

by Bob Kitch.

@@@@@@@@@@@@@@@@@@@@@@@@

Sound or music has not been featured in most VZ software. During a number of brief articles, I will discuss the generation of sounds on the VZ. I will also provide some thought provoking program listings. I thoroughly enjoy computer generated or synthesized music. The VZ can also be used as a controller in music generation.

BACKGROUND

The VZ tone generator uses a small piezo speaker connected across two bits of the I/O latch. Clearly there is not much hardware involved - which is why all the sound generation depends upon software.

The obvious shortcomings of this method are twofold:

Firsty, only single voiced melodies can be played and, secondly, nothing else can be done whilst playing as the Z80 is fully occupied. To improve upon this situation, some additional hardware is required, such as an additional sound generating chip.

Tone generation is a periodic phenomenon and requires frequent setting and resetting of the two bits driving the speaker. The VZ's I/O latch is addressed at 6800H. Bits 0 and 5 drive the speaker in a push-pull mode. This means that bits 5 and 0 must be complimentary to drive the speaker. The same latch also controls the cassette port on the VZ and this may be used for recording tones. Bits 1 and 2 similarly drive the cassette port.

The faster that bits 0 and 5 are switched (set and reset), the higher the pitch (or frequency) of the tone that will be issued from the VZ's speaker. The normal audio spectrum extends from 20 to 20000 Hertz or cycles per second. For example, the "middle C" on a piano is 262 Hz or a period of 3.8 millisec. (period is the reciprocal of frequency)

The quality or timbre of the sound is quite independant of pitch or frequency. A trumpet sounds quite distinctive to a trombone because of the different timbre of each instrument. Mathematically this may be expressed as the presence of "harmonics" being present above the fundamental frequency. In terms of sound generation, this is characterized by the duty cycle of the waveform. Normally in the VZ, the two bits at 6800H

are switched on and off at the same rate. This results in a square wave form of output that is defficient in harmonics. The duty cycle is 50:50. This means that the "on period" is of the same duration as the "off period". By varying this ratio, some interesting sounds can be generated.

A third parameter governs sound. In addition to pitch and timbre, loudness plays a part. Unfortunately on the VZ this cannot be varied independantly of timbre.

VZ SOUND SYNTHESIS.

The simplest way to generate sound on the VZ is to use the facilities provided by the SOUND command in the BASIC Interpeter. This is very useful and convenient and was one of the "improvements" that the VZ had over the earlier TRS-80 computers.

Enter my listing entitled "STARWARS" and listen to the tune.

There are a couple of points to observe in this tune. The volume and tone (timbre) of the melody cannot be varied. In a couple of places, the timing of the tune is delayed whilst the Interpeter is writing to the screen. The timing is also varied in a couple of other places as triplets (a note of a certain duration) are used and these are not provided in the Interpeter. All-in-all though, the VZ makes a pretty fair fist of it.

Next time we will discuss the BASIC Interpeter and actually the means by which software commands are converted in to physical sound waves.

```
*********************
*   STAR WARS THEME  *
*     BY BOB KITCH   *
*       20/8/90      *
*********************
```

```
70 CLS:PRINT@480,"A LONG TIME AGO"
80 PRINT"IN A GALAXY FAR,FAR AWAY"
90 PRINT"A GREAT ADVENTURE TOOK PLACE.";:FOR I=0 TO 1000:NEXT I
100 SOUND 6,1;6,1;6,1
105 PRINT:PRINT:PRINT"IT IS A PERIOD OF CIVIL WAR.";
110 SOUND 11,4;18,4
120 SOUND 16,1;15,1;13,1;23,4;18,2
130 SOUND 16,1;15,1;13,1;23,4;18,2
140 SOUND 16,1;15,1;16,1;13,4;6,2;6,1
145 PRINT:PRINT
146 PRINT"REBEL SPACESHIPS":PRINT"FIGHTING FROM A HIDDEN BASE";
150 SOUND 11,4;18,4
160 SOUND 16,1;15,1;13,1;23,4;18,2
170 SOUND 16,1;15,1;13,1;23,4;18,2
180 SOUND 16,1;15,1;16,1;13,4;6,2;6,1
185 PRINT:PRINT"HAVE WON THEIR FIRST VICTORY";
190 SOUND 8,3;8,1;16,1;15,1;13,1;11,1
200 SOUND 11,1;13,1;15,1;13,2;8,1;10,2;6,2;6,1
210 SOUND 8,3;8,1;16,1;15,1;13,1;11,1
220 SOUND 18,1;13,1;13,4;6,2;6,1
225 PRINT:PRINT"AGAINST THE EVIL GALACTIC EMPIRE";
230 SOUND 8,3;8,1;16,1;15,1;13,1;11,1
240 SOUND 11,1;13,1;15,1;13,2;8,1;10,2;18,2;18,1
250 SOUND 23,2;21,1;20,2;18,1;16,2;15,1;13,2;11,1
260 SOUND 18,5
300 SOUND 6,1;6,1;6,1
305 PRINT:PRINT"DURING THE BATTLE";
310 SOUND 11,4;18,4
320 SOUND 16,1;15,1;13,1;23,4;18,2
330 SOUND 16,1;15,1;13,1;23,4;18,2
340 SOUND 16,1;15,1;16,1;13,4;6,2;6,1
345 PRINT:PRINT"REBEL SPIES MANAGED ";
346 PRINT"TO STEAL    SECRET PLANS TO THE EMPIRE'S    ";
347 PRINT"ULTIMATE WEAPON";
350 SOUND 11,4;18,4
360 SOUND 16,1;15,1;13,1;23,4;18,2
370 SOUND 16,1;15,1;13,1;23,4;18,2
380 SOUND 16,1;15,1;16,1;13,4;18,2
385 PRINT:PRINT:PRINT"          THE DEATH STAR.":PRINT
390 SOUND 23,8
400 SOUND 23,1;23,1;23,1
410 SOUND 23,1
415 PRINT"- AN ARMOURED SPACE STATION"
416 PRINT"WITH ENOUGH POWER TO DESTROY AN ENTIRE PLANET.";
420 FOR I=0 TO 2000:NEXT I
430 CLS:PRINT@195,"MAY THE FORCE BE WITH YOU.";
440 FOR I=0 TO 1000:NEXT I
450 PRINT@430,""
500 END
```

WORD PROCESSORS

A Wordprocessor is a computer program designed to make it easy to prepare documents such as letters and reports. You type your document on the computer keyboard, and it is displayed on the screen, allowing changes to be easily made. You can make simple changes like spelling, or insert paragraphs, or shift them to other locations or delete them. The text you type in is stored in memory, and can be saved to tape or disk for future use, or printed out at once.

This series, written by Don Dower and myself, is aimed to give an idea of what you may expect from the 3 wordprocessors available for the VZ.

The first was the DSE W.P written by Epps & Fakenel. It is the simplest and still the most widely used. It was a tape based unit, and needed the 16K expansion memory for both the 200 and 300. There has been 3 "PATCHES" brought out for it by various people to convert it to disk use, and 1 modification to allow it to use the full memory available, and one to allow tailoring to your own format. I will deal with them after a brief rundown of the parent processor.

The E&F W.P loads into the computer, and has available about 15K of useable memory. That is about 4 pages of typescript. This can be Saved for later use, the memory cleared, and another 15K typed in. It will Merge several shorted files if needed.

It has upper & lower case letters, left margin setting, line and page length control, right justify, (that is getting the right side of text in a straight line), search and a search and replace command, can shift blocks of text from place to place or copy blocks to other locations. Can skip performations on fanfold paper, can double line space and printout multiple copies. It has automatic text wrap-around facilities, so you just type on and don't worry about the end of a line. The editoring is done "On screen", by simply moveing the cursor and typeing in or deleting. Another VERY useful function, is that it will print on the screen how it will on the hard copy. That is your choice of characters per line and lines per page, and will give a result of how many character, lines and pages. A very useful tool for an editor. It is very annoying to print something out, and it goes to the last page to print 1 word.

The first patch I'll mention was PATCH 3.1 by Dave Mitchell. This allowed the use of disk or tape for saving or loading, and was a great boon to us.

This was later followed by PATCH3.3, also by Dave. This allowed the use of disk or tape, and had control codes to control the printer. This allowed the full use of all that the printer was capable of, such as Near Letter Quality, Wide, double height, quadruple height and width, Italic, underline or overline, compressed or spread printing, alteration of line spacing etc. To obtain these you fed in the normal printer codes, ie. 27,120,49 etc.. These can be put in anywhere in the line. It also has a shift lock. This is the set-up I use in the Newsletter.

This patch is still available from Hunter Valley V.Z Users group.

With it comes an auxilery program that allows Basic or Source programs to be converted to W.P files. Since I started using it you may have noticed a whole series of REMs missing from the Basic Made Easy series.

Another Patch was by Russell Harrison. It allowed use of Disk or Tape, and had printer control as well. However there is only a choice of 6 formats available. You may choose which six. They are controlled by Graphic Blocks. It also has a feature to center or right or left justify. A very handy feature is the ability to skip through the text from space to space, instead of one letter at a time. It is still available from Bob Kitch.

The first modification was called The Smart W.P. It used a monitor to alter some pointers, so that it would locate at the top of whatever memory you had. This gave about an extra 7K bytes available for use with the memory expansions in use, and also allowed it to run on an unexpanded VZ300. Both useful facilities. That was by Bob Kitch.

The other modification was to allow you to tailor it to your most used format. This means that when loaded the characters per line, lines per page, margins etc were already set to your choice. This was by Dave Mitchell.

In between these patches DSE brought out a plug-in cartridge, that fits in place of the memory expansion. It contained the W.P. program and it's own memory. So this will run on the 200 or 300, without the memory expansion. It has most of the facilities of the first E&F processor, with the added advantage that there is no loading required. It is there at switch-on. It has printer control, again as "27,120,49". Has centring facilities, and also Tabulation stops. Two modes of operation. That is as the normal keyboard that overprints a character for correction, or as the original, will insert between characters. Both are useful and are selected from the keyboard. It also has a shift lock. Line length is controlled, as is right and left margins and page length. Right justify is optional. Has an indent command, that automatically indents a nominated amount in first line after an end of paragraph marker. It is tape or disk operation.

It's capacity is 15K characters, but a very useful feature for long documents of ANY length is its auto load and print. You save any number of 15K blocks to disks or tapes. To printout, you nominate the order, and it loads and prints the lot. Ofcourse, you have to start and stop the tape, but disks are automatic, except if you have more than 1 disk. then you have to change the disks.

Now Don will explain the other wordprocessor, the V.Z Quickwrite 4.7 and Quickwrite 2.

QUICKWRITE

In 1987 a completely new word processor program was developed by Larry Milburn of QUICKWRITE.This program was called Quickwrite, the initial version being Version ii.
This program was divided into 5 modes namely keyboard,edit,disk,tape & set-up mode.I will now quickly describe each mode.

KEYBOARD MODE
This will be the mode most commonly used by the user.It is the mode used to enter all of the user text.It contains the usual upper/lower case select function together with insert,format code l/r justify rubout,tab/indent,rubout,& control codes.This version only allows the user to insert printer control codes at the beginning of a "hard copy".

EDIT MODE
This mode contains all the options available with E & F word processor namely view,find & replace,copy,cut,paste,& hard copy print.

DISC MODE
Contains all the options available with the DOS that the V.Z supports, with the addition of a label command.

TAPE MODE.
Contains the usual command to load & save programs to tape.

SET-UP MODE.
Allows the user to select hard copy format (i.e. column length,page size,Etc) together with auto disc saving facility,view speed,disc drive number,& auto save frequency.

In January 1989 a updated verion was released namely for all those users who were lucky enough to have obtained a 64k ram memory module.This allowed the user to fully utilize the extra memory available giving the user 40k of user file space available compared with 20K bytes on a VZ-300 with 16k memory expansion.This is not the only benefits to be obtained from from version 4.7. 10 control characters are available which enable the user to pre-define printer control codes.i.e the printer control codes for "select NLQ character" (27,120,1) can be defined by an inverse ASCII character 33 to 42. DISC MODE has an additional command to save to an "s" file the control characters mentioned above.Tape users have the advantage of being able to load E & F files & Edas files.

A program called BAS.CNV is also provided with this program which allows the user to convert basic programs to QUICKWRITE files.

HELP HELP HELP HELP

I recently had the need to get a 64K memory expansion repaired by D.S. E. because of bad memory locations in bank 2. D.S.E. replaced the original dynamic ram chips (4864 no longer available) with 4564 (equiv to 4164?) & now all i get is garbage.Removing the 4564 chips removes the problem.I have a feeling that the replacement chips are not compatable.Can any one help with some information.Any replies can be sent to HARRY H.

TRADING POST

EPROMS for EXTENDED DOS. and BASIC

Are available from

Bob Kitch
7 Eurella Str.
KENMORE Q'ld. 4069

FOR SALE

Word proc. cartridge, DATA CASSETTE RECORDER (DR20)
JOYSTICKS, PRINTER INTERFACE.
Reasonable offer.
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Ph. 071-27-1515.

OTHER V Z USER GROUPS

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P.O.Box 161
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CENT.VIC.COMP.Club
24 Breen St.
BENDIGO VIC 3550

BRISBANE VZUG
63 Tingalpa St.
WYNUM West. Q'ld. 4178

Graeme Bywater
P.O.Box 388
Morley W.A. 6062

How to write adventure programs.

David has advised that pressure of school work has delayed his articles.

I trust this is only a temporary hold-up, and that we will get them later.

I would ask that those that were asked to give him feeddback will be patient. (Ed).